**How To Make Sense of the Information Out There**

**Learning Objectives**:

1. Recognize that all available information and claims may not be credible/reliable and/or relevant
2. Learn how to evaluate a claim

**Some useful Definitions**:

* *Argument*: set of logical statements leading to a conclusion
* *Assertion*: something that is proposed to be true, but which has not been, or cannot be, actually shown to be true
* *Claim*: a statement of understanding about data or the results of an investigation
* *Conclusion*: a reasonable inference or deduction following logical argument(s) and evidence(s)
* *Data*: Facts, figures, or information gathered by observation or experiment, from which conclusions can be inferred
* *Evidence or proof*: data on which a decision/judgment or conclusion might be based
* *Fact*: something that can be shown to be true
* *Hypothesis*: prediction, based on a theory, that can be tested in an experiment
* *Opinion*: belief formed about something that may or may not be tested and proven
* *Theory*: proposed explanation about something in the natural world, based on what we currently know

**Evaluating credibility and relevance of a claim in an article** - Answer the following questions

1. What is the main statement, claim, or conclusion being made?
2. What is the evidence for the claim/conclusion?
3. Is the evidence reliable and relevant –
   1. Where was the evidence found/reported —scientific journal, newspaper, or school magazine? Is the source reputable/reliable?
   2. Is the evidence coming from an expert in the field? How well is this expert’s opinion regarded by others in the community?
   3. Is the evidence clear – are there any assumptions or conditions that apply in deriving the conclusion?
   4. When was the evidence reported and for what purpose?
   5. Is the evidence based on fact(s) or opinion(s)?
   6. Was the evidence taken from a primary source or from a reinterpretation of it (secondary source)?
4. Are arguments used to make the conclusions logically sound? Beware of fallacies, such as:
   1. only limited conclusions are considered, when many are possible
   2. correlations are interpreted as causations
   3. evidences that disagree with the conclusions are ignored
5. Does the conclusion follow from the evidence(s) and argument(s) provided?

**Try an exercise**:

Read the article: “A weighty problem: how to halt obesity in the developing world” <http://www.theguardian.com/global-development/poverty-matters/2014/jan/03/weighty-problem-halt-obesity-developing-world>

Answer the following questions, keeping in mind the tips above:

1. The author claims “as a result of the proliferation of junk food, two-thirds of Mexicans are overweight” (paragraph 7). Is this claim justified by evidence that is cited in support of it?
   1. Yes
   2. No
2. In the last four paragraphs, the author argues in favor of government-led initiatives and incentives to improve their citizens’ diets, in order to tackle the rise in obesity. What is the evidence that supports this argument?
   1. The changes to the law on trans-fatty acids in foods have been effective against rising obesity in Denmark
   2. The government-backed initiative to promote traditional low-fat meals in South Korea has been effective against rising obesity in that country
   3. The imposition of taxes on fizzy drinks has been effective against rising obesity in Mexico

By doing this and other similar exercises you can learn to carefully read available information and evaluate if the claims reported are based on reliable and relevant data. These critical reading/thinking skills may be applied to all material that you read (including scientific articles) in order to pick out suitable information related to your topic of interest.